

## REMARKS

Reconsideration of the present application is respectfully requested on the basis of the following particulars.

### 1. Election/Restriction

In view of the restriction requirement made by Applicants' representative on August 18, 2004, the claims of Group IV are hereby elected. Claims 18-22 and 27-32 form part of the invention of group IV and examination of these claims is hereby requested.

The remaining claims, 1-17 and 23-26 are canceled without prejudice or disclaimer.

### 2. In the Specification

The specification is amended to correct the informalities identified in the Action. Moreover, appropriate section headings are provided in accordance with U.S. practice.

It is submitted that the amendment of the specification does not introduce new subject matter into the specification as originally filed. Acceptance of the amendment of the specification is kindly requested in the next Action.

### 3. In the Claims

In the Amendment of the Claims, new claims 33-46 are submitted. New claims 33-45 substantially parallel the subject matter of claims 18-22 and 27-32 and recite methods and embodiments according to the elected invention. New claims 46-48 recite methods of the pending application that are embodied in FIGS. 12a, 12c and 13c, respectively. It is believed that these method steps are drawn to the

elected invention since they recite methods for incorporating a thinned chip into a smart card and the product resulting from that method.

Claim 33 closely resembles the subject matter claim 18 and further recites that the smart card is formed of plastic and the chip is permanently secured within the smart card. Claims 34, 35 and 37 parallel the subject matter of claims 19, 20 and 22, respectively. New claim 36 recites the subject matter of claim 21 and that all sides of the chip with the exception of a front side facing outwardly from the surface of the smart card are surrounded by plastic material of the smart card.

Claim 38 recites that the smart card consists a single plastic card body.

Claim 39 closely resembles claim 27 and includes the added features firstly recited in new claim 33 of the smart card and chip. The remaining claims 40-44 parallel claims 28-32.

Similar to claim 38, claim 45 recites that the smart card consists a single plastic card body.

As indicated above, new claim 46 recites the method exemplified in FIG. 12a. Claim 47 recites applying a chip to a smart card as shown in FIG. 12c, and claim 48 recites applying a chip to a smart card as shown in FIG. 13c.

It is submitted that the new claims do not introduce new matter into the pending application and the specification provides clear support for each of the inventive features recited in the new claims. Acceptance and examination of the new claims is respectfully requested in the next Office communication.

4. Rejection of claims 18, 19 and 27-29 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,412,701 (Kohama et al.) in view of U.S. Patent 6,342,434 (Miyamoto et al.)

Applicants respectfully traverse this rejection on the basis that the combined teachings of the Kohama et al. and Miyamoto et al. references fail to teach or suggest the method of claim 18 or make the smart card according to claim 27. More specifically, it is submitted that the rejection fails to establish obviousness based on a combination of the elements disclosed in the Kohama et al. and Miyamoto et al. references, and as such, there is no motivation, suggestion or teaching to select and combine the Kohama et al. and Miyamoto references.

The Kohama et al. reference describes a flexible IC module incorporating a chip along one surface thereof. Contrary to the assertion made in the Office Action, however, there is no suggestion as to the method of forming the IC module in FIGS. 8 and 9 of the Kohama et al. reference. Instead, it is merely presumed that the IC module illustrated in FIGS. 8 and 9 is formed in the manner described in claim 18 of the pending application and attributed in the Action.

Of particular importance, the Kohama et al. reference describes the embodiment in FIGS. 8 and 9 as having the benefit of being made thinner since it does not include a layer of non-woven fabric disposed thereover, as shown in other embodiments in the Kohama et al. reference (col. 12, lines 12-17). This benefit results in simpler manufacture and a reduction in costs in making the IC module.

The thinness of the IC module in this embodiment is thus related to the elimination of a layer of the non-woven fabric, and is not related to any modification of the chip. Moreover, it is readily apparent that the Kohama et al. reference indicates that the IC module is sufficiently thin in view of the elimination of the layer of non-woven fabric.

Thus, it seems from the Kohama et al. reference that there is no need nor would there be any advantage in making the chip thinner since this embodiment of the Kohama et al. already provides the solution of a thinner IC module.

In the Office Action, it is correctly pointed out that the Kohama et al. reference does not describe a chip which is thinned. The Miyamoto et al. reference is thus provided to make up for the glaring deficiency of the Kohama et al. reference by indicating that it would be obvious to combine a thinned semiconductor of Miyamoto et al. reference with the Kohama et al. reference since this would result in a smart card that has decreased material costs.

The Applicants respectfully disagree with the assertion that the thinning process of the Miyamoto et al. reference results in a smart card that is produced with reduced material costs. Moreover, there is no evidence within either of the Kohama et al. or Miyamoto et al. references that would tend to motivate a skilled artisan to combine these references to devise the smart card and method for making the same according to the pending application.

In the Miyamoto et al reference, a semiconductor wafer undergoes a thinning process whereby one side of the semiconductor is thinned that bears no circuit elements. The process involves removing material from the semiconductor with an etchant (abstract; col. 3, lines 15-37).

While the Action appears to indicate that the thinning process according to the Miyamoto et al. reference is to decrease material costs for making a smart card in column, 5, lines 23-26, there is simply no disclosure or hint of this allegation in the Miyamoto et al. reference in the passage identified in the Action. In view of the process according to Miyamoto et al., while the semiconductor is thinned, there is no reduction in material cost, as alleged in the Action. In fact, the process according to the Miyamoto et al. reference results in material waste since material is removed from the semiconductor. Thus, no material costs are reduced by thinning the semiconductor of the Miyamoto et al. reference.

As is well understood, in making a rejection based on obviousness, particular findings and specific reasons must be provided as to why a skilled artisan would

have been motivated to select references and to combine them to render a claimed invention obvious. See *In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); See also *In re Rouffet*, 149 F.3d 1350, 1359, 47 U.S.P.Q.2d 1453, 1459 (Fed. Cir. 1998). Evidence of the motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved. *In re Dembiczaik*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). Whether an express or implicit showing is relied upon, particular findings related thereto must be provided therewith. Id. When general knowledge is relied upon to negate patentability, that knowledge must be articulated in the record and cannot be resolved on "subjective belief and unknown authority." *In re Lee*, 277 F.3d 1338, 1342-45, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002).

It is kindly asserted that the basis provided in the Action for combining the Kohama et al. and Miyamoto et al. references is not found in either of these references. Instead, the conclusory statement that the thinner smart card contrived to be produced by the proposed combination would result in decreased material costs does not adequately address the issue of motivation to combine. This apparent factual basis of motivation is of the very subjective belief and unknown authority prohibited by the courts.

It will be pointed out that according to the pending application, one of the reasons for providing the thinner chip is to impart greater flexibility of the smart card, and thereby render the smart card with enhanced ability to bend and be subjected to torsion (page 1, last full paragraph). Neither of the Kohama et al. and Miyamoto et al. references even hint at a smart card having these capabilities. Moreover, in view of this description, it appears that the Action misses the point of the reason for thinning the chip in the smart card of the pending application since it is not primarily to make a thin smart card per se, but instead it is to provide a thin chip that improves the flexibility of the smart card as a whole.

Thus, in view of these observations, it is submitted that the Kohama et al. and Miyamoto et al. references, whether considered individually or collectively, fail to disclose or suggest the method of claim 18 and the smart card according to claim 27 of the pending application. Claim 19, which depends from claim 18, and claims 28 and 29, which depend from claim 27, are thus patentable based on their dependency from one of claims 18 and 27. Withdrawal of this rejection is therefore requested.

5. Rejection of claims 18, 20, 27 and 30 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,193,163 (Fehrman et al.) in view of U.S. Patent 6,342,434 (Miyamoto et al.)

Applicants respectfully traverse this rejection on the basis that the combined teachings of the Fehrman et al. and Miyamoto et al. references fail to teach or suggest the method of claim 18 or the smart card according to claim 27. More specifically, it is submitted that the rejection fails to establish obviousness based on a combination of the elements disclosed in the Fehrman et al. and Miyamoto et al. references, and as such, there is no motivation, suggestion or teaching to select and combine the Fehrman et al. and Miyamoto et al. references.

In the Action, the Miyamoto et al. reference is provided to make up for the shortcoming of the Fehrman et al. reference of failing to disclose or suggest the thinning of the chip module provided in the smart card thereof.

For the same reasons as in the rejection of claims 18 and 27 in view of the proposed combination of Kohama et al. and Miyamoto et al. references, this rejection is traversed since the basis provided in the Action for combining the Fehrman et al. and Miyamoto et al. references is not found in either of these references. Instead, the conclusory statement that the thinner smart card contrived to be produced by the proposed combination would result in decreased material costs does not adequately address the issue of motivation to combine.

In fact, the Fehrman et al. reference states that the smart card discussed therein of the thickness of any typical smart card (col. 8, lines 43-51). Hence, it follows that there is no suggestion in the Fehrman et al. reference that would tend to motivate a skilled artisan to make the smart card any differently nor does there appear to be any hint of an advantage of providing a thin smart card as suggested in the Action.

Thus, in view of these observations, it is submitted that the Fehrman et al. and Miyamoto et al. references, whether considered individually or collectively, fail to disclose or suggest the method of claim 18 and the smart card according to claim 27 of the pending application. Claim 20, which depends from claim 18, and claim 30, which depends from claim 27, are thus patentable based on their dependency from one of claims 18 and 27. Withdrawal of this rejection is therefore requested.

6. Rejection of claims 18, 21, 27 and 31 under 35 U.S.C. § 103(a) as being unpatentable over French Patent 2780534 (Provost) in view of U.S. Patent 6,342,434 (Miyamoto et al.)

Applicants respectfully traverse this rejection on the basis that the combined teachings of the Provost and Miyamoto et al. references fail to teach or suggest the method of claim 18 or make the smart card according to claim 27. More specifically, it is submitted that the rejection fails to establish obviousness based on a combination of the elements disclosed in the Provost and Miyamoto et al. references, and as such, there is no motivation, suggestion or teaching to select and combine the Provost and Miyamoto et al. references.

While it is alleged in the Action that the Provost reference describes a smart card wherein a chip is applied externally to a surface of a smart card, this is simply not taught by the Provost reference. Instead, in observing FIGS. 1-5, it is readily apparent that the step of applying a chip to one of two layers of a smart card is shown in FIG. 3A. There are subsequent steps shown in FIGS. 4 and 5 which

illustrate an additional layer (32) which is applied over the chip. Hence, the chip is not applied externally to the smart card.

Therefore, the Provost reference fails to disclose or suggest the smart card of the pending application, and the Miyamoto et al. reference, in view of the more detailed discussion provided above in regards to the other rejections, fails to make up for the basic shortcomings of the Provost reference.

For the same reasons as in the rejection of claims 18 and 27 in view of the proposed combination of Kohama et al. and Miyamoto et al. references, Applicants submit that the proposed combination of the Provost and the Miyamoto et al. references fail to provide sufficient motivation to combine these references. Furthermore, the Action does not provide any evidence within the Provost and Miyamoto et al. references which would tend to suggest the desirability to make the proposed combination to devise the method and make the smart card according to the pending claims. Instead, this rejection appears to be based on mere speculation which of course is insufficient to establish obviousness.

Thus, in view of these observations, it is submitted that the Provost and Miyamoto et al. references, whether considered individually or collectively, fail to disclose or suggest the method of claim 18 and the smart card according to claim 27 of the pending application. Claim 21, which depends from claim 18, and claim 31, which depends from claim 27, are thus patentable based on their dependency from one of claims 18 and 27. Withdrawal of this rejection is therefore requested.

7. Rejection of claims 22 and 32 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,412,701 (Kohama et al.), U.S. Patent 6,193,163 (Fehrman et al.) and French Patent 2780534 (Provost) in view of U.S. Patent 6,342,434 (Miyamoto et al.) and further in view of U.S. Patent 4,385,427 (Bohm et al.)

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Examiner: Cheryl N. Hawkins  
Art Unit: 1734

This rejection is respectfully traversed on the basis that the Bohm et al. reference fails to make up for the basic shortcomings discussed above in reference to the Kohama et al., Fehrman et al., Provost and Miyamoto et al. references.

For this reason, it is respectfully submitted that the Kohama et al., Fehrman et al., Provost, Miyamoto et al. and Bohm et al. references, whether considered collectively or individually, fail to disclose or suggest the basic recited method of claim 18 and the smart card of claim 27. Claim 22, which depends from claim 18, and claim 32, which depends from claim 27, are thus patentable based on their dependency from one of claims 18 and 27, and their individually recited features.

8. Conclusion

In view of the new claims, and further in view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that each and every pending claim in the present application be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicants' Attorney, the Examiner is invited to contact the undersigned at the numbers shown below.

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Respectfully submitted,



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